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09/587,909	06/06/2000	Jurgen Enssle	Q59049	8289

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EXAMINER

RYMAN, DANIEL J

ART UNIT	PAPER NUMBER
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2665

DATE MAILED: 08/04/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/587,909

Applicant(s)

ENSSLE ET AL.

Examiner

Daniel J. Ryman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 June 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 9 recites the limitations "after estimation of the number of colliding terminals" and "different contention-resolving techniques" in lines 1-2. There is insufficient antecedent basis for these limitations in the claim. As written, the claim assumes that a step of estimating the number of colliding terminals and a step of using a contention-resolving technique have previously been claimed; however, neither a step of estimating a number of colliding terminals nor the step of using a contention-resolving technique are disclosed in claim 9 or the claims which claim 9 depend upon. As such, Examiner is unsure as to the proper metes and bounds of the claim. Since Examiner cannot determine the intended meaning of the claim, Examiner will not consider the claim for the purpose of prior art rejections.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukasawa et al. (USPN 5,715,521).

6. Regarding claim 1, Fukasawa discloses a transmitting facility for a multipoint-to-point synchronous CDMA network (col. 5, lines 25-34) where, as broadly defined, the system is a multipoint-to-point system since the base station communicates to multiple mobile units simultaneously, comprising a unit for generating a CDMA-coded information signal (col. 2, lines 40-64 and col. 3, lines 8-20), said facility further comprising a unit for generating an acquisition signal (synchronization signal) (col. 2, lines 3-23 and col. 3, line 57-col. 4, line 45), with encoding being performed using an acquisition code which is not a CDMA communication code (col. 1, lines 42-63 and col. 2, lines 3-23 and col. 3, line 57-col. 4, line 45) where, as broadly defined, a "CDMA communication code" is only used for data transmission such that the acquisition code is not a CDMA communication code, and the acquisition signal being transmitted in the same transmission channel as the information signal (col. 2, lines 40-45). Fukasawa does not expressly disclose in the primary embodiment that the signal level is telemetrically adjustable; however, Fukasawa does disclose in an additional embodiment that the signal level is telemetrically adjustable in order to ensure that the acquisition signal is sent at a power level that will minimize interference for the system (col. 6, line 33-col. 7, line 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the signal level be telemetrically adjustable in order to ensure that the acquisition signal is sent at a power level that will minimize interference for the system.

7. Claims 2, 3, 5, 8, 10, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukasawa et al. (USPN 5,715,521) in view of Skinner et al. (USPN 5,577,025).

8. Regarding claim 2, Fukasawa discloses a receiving facility for a multipoint-to-point synchronous CDMA network (col. 5, lines 25-34) where, as broadly defined, the system is a multipoint-to-point system since the base station communicates to multiple mobile units simultaneously, comprising a unit for receiving and detecting a CDMA-coded information signal and a unit for receiving and detecting an acquisition signal (synchronization signal) (col. 2, lines 3-23; col. 2, lines 40-64; and col. 3, line 57-col. 4, line 45), wherein said unit for receiving and detecting an acquisition signal comprises a despreaders for despreaders at least two serially transmitted, identical acquisition signals (signal is repeatedly transmitted) using an acquisition code which is not a CDMA communication code (col. 1, lines 42-63; col. 2, lines 3-23; and col. 3, line 57-col. 4, line 45) where, as broadly defined, a "CDMA communication code" is only used for data transmission such that the acquisition code is not a CDMA communication code, the acquisition signal being transmitted in the same transmission channel as the information signal (col. 2, lines 40-45). Fukasawa does not expressly disclose that said unit for receiving and detecting an acquisition signal comprises a logical correlator for correlating an acquisition signal with an acquisition code, and an accumulator for accumulating the correlated acquisition signals, by means of which the detection of the acquisition signal can be carried out. Skinner teaches as prior art, in a CDMA communication system, acquiring a signal using a logical correlator for correlating a signal with a code, and an accumulator for accumulating the correlated signals, by means of which the detection of the signal can be carried out (col. 3, lines 15-26). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the unit for receiving and detecting an acquisition signal comprise a logical correlator for correlating an acquisition signal with an acquisition code, and an accumulator for accumulating the correlated

acquisition signals, by means of which the detection of the acquisition signal can be carried out in order to acquire a signal.

9. Regarding claim 3, Fukasawa discloses an acquisition method for a multipoint-to-point synchronous CDMA network comprising at least two terminals and a center (col. 5, lines 25-34) where, as broadly defined, the system is a multipoint-to-point system since the base station communicates to multiple mobile units simultaneously, the terminals transmitting CDMA-coded information signals and acquisition signals to the center, wherein in order to achieve synchronization, each of the terminals transmitting serially to the center at least two identical acquisition signals (signal is repeatedly transmitted) which are spread using an acquisition code which is not a CDMA communication code (col. 1, lines 42-63; col. 2, lines 3-23; and col. 3, line 57-col. 4, line 45) where, as broadly defined, a "CDMA communication code" is only used for data transmission such that the acquisition code is not a CDMA communication code, and which are transmitted in the same transmission channel as the information signal (col. 2, lines 40-45). Fukasawa does not expressly disclose in the primary embodiment that the signal level is telemetrically adjustable; however, Fukasawa does disclose in an additional embodiment that the signal level is telemetrically adjustable in order to ensure that the acquisition signal is sent at a power level that will minimize interference for the system (col. 6, line 33-col. 7, line 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the signal level be telemetrically adjustable in order to ensure that the acquisition signal is sent at a power level that will minimize interference for the system. Fukasawa does not expressly disclose that the center detects the acquisition signal by logically correlating the acquisition signal with an acquisition code, and by subsequently accumulating the correlated acquisition signals. Skinner

teaches as prior art, in a CDMA communication system, acquiring a signal using a logical correlator for correlating a signal with a code, and an accumulator for accumulating the correlated signals, by means of which the detection of the signal can be carried out (col. 3, lines 15-26). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the center detect the acquisition signal by logically correlating the acquisition signal with an acquisition code which is not a CMDA communication code, and by subsequently accumulating the correlated acquisition signals in order to acquire a signal.

10. Regarding claim 5, referring to claim 2, Fukasawa in view of Skinner discloses that at least two logical correlators and at least two accumulators are provided for detecting at least two acquisition signals with different time relations to the CDMA signals and/or for allowing the use of two or more acquisition codes (Fukasawa: col. 1, lines 42-63 and col. 5, lines 11-25) where it is disclosed that different spread codes are used for each unit to keep the communications separate.

11. Regarding claims 8 and 16, referring to claims 2 and 3, Fukasawa in view of Skinner discloses that prior to or after the accumulation, squaring is performed (Skinner: col. 3, lines 15-26).

12. Regarding claim 10, referring to claim 3, Fukasawa in view of Skinner does not expressly disclose that the center is adapted to telemetrically specify the transmitted power of the acquisition signals of the terminals in such a way that the sum level of all simultaneously transmitted acquisition signals is at least 10 dB lower than a sum level of all simultaneously transmitted information signals; however, Fukasawa in view of Skinner does expressly disclose that the center is adapted to telemetrically specify the transmitted power of the acquisition

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signals of the terminals in such a way that the sum level of all simultaneously transmitted acquisition signals is lower than a sum level of all simultaneously transmitted information signals (Fukasawa: col. 6, line 33-col. 7, line 2). It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Fukasawa in view of Skinner discloses that the center is adapted to telemetrically specify the transmitted power of the acquisition signals of the terminals in such a way that the sum level of all simultaneously transmitted acquisition signals is lower than a sum level of all simultaneously transmitted information signals, it would have been obvious to have the level be any amount lower, including at least 10 dB, absent a showing of criticality by Applicant.

13. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukasawa et al. (USPN 5,715,521) as applied to claim 1 above, and further in view of Schilling et al. (USPN 6,061,359).

14. Regarding claim 4, referring to claim 1, Fukasawa does not expressly disclose that the acquisition code is a Barker code; however, Fukasawa does disclose that the acquisition code is a spreading code (col. 2, lines 45-64). Schilling teaches, in a CDMA communication system, using Barker codes to spread an acquisition signal (col. 22, lines 40-41) since Barker codes can have

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good cross-correlation properties (col. 17, line 56-col. 18, line 9). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a Barker code as the acquisition code since Barker codes can have good cross-correlation properties.

15. Claims 6 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukasawa et al. (USPN 5,715,521) in view of Skinner et al. (USPN 5,577,025) as applied to claims 2, 3, and 5 above, and further in view of Schilling et al. (USPN 6,061,359).

16. Regarding claims 6 and 13, referring to claims 2 and 5, Fukasawa in view of Skinner does not expressly disclose that at least one matched filter serves to implement one or more correlators. Schilling teaches, in a CDMA communication system, implementing a correlation function using matched filters (col. 8, lines 17-24) where it is implicit that matched filters are well known in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to use at least one matched filter to implement one or more correlators since matched filters are well known in the art.

17. Regarding claims 11 and 12, referring to claims 2 and 3, Fukasawa in view of Skinner does not expressly disclose that the acquisition code is a Barker code; however, Fukasawa in view of Skinner does disclose that the acquisition code is a spreading code (Fukasawa: col. 2, lines 45-64). Schilling teaches, in a CDMA communication system, using Barker codes to spread an acquisition signal (col. 22, lines 40-41) since Barker codes can have good cross-correlation properties (col. 17, line 56-col. 18, line 9). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a Barker code as the acquisition code since Barker codes can have good cross-correlation properties.

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18. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukasawa et al. (USPN 5,715,521) as applied to claim 1 above, and further in view of Ozluturk et al. (USPN 5,841,768).

19. Regarding claim 7, referring to claim 1, Fukasawa does not expressly disclose that the length of the acquisition code is shorter than the length of the CDMA communication code by at least a factor of five. Ozluturk teaches, in a CDMA communication system, that short codes permit a one unit to quickly synchronize with a spreading code of another unit (col. 3, lines 20-24; col. 7, lines 32-37; and col. 7, line 62-col. 8, line 10). Ozluturk also discloses that the spreading code of another unit should be an integer multiple of the short code since this allows for faster synchronization with the spreading code the another unit (col. 7, line 62-col. 8, line 10). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the length of the acquisition code be a factor of X, where X is an integer, shorter than the length of the CDMA communication code in order to permit one unit to quickly synchronize with another unit. Fukasawa in view of Ozluturk does not expressly disclose that the acquisition code is shorter than the CDMA communication code by at least a factor of five; however, Fukasawa in view of Ozluturk does disclose that the acquisition code is a factor of X, where X is an integer, shorter than the CDMA communication code (Ozluturk: col. 3, lines 20-24; col. 7, lines 32-37; and col. 7, line 62-col. 8, line 10). It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108,

65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Fukasawa in view of Ozluturk discloses that the acquisition code is a factor of X, where X is an integer, shorter than the CDMA communication code, it would have been obvious to have the acquisition code be any amount shorter than the CDMA communication code, including by at least a factor of five, absent a showing of criticality by Applicant.

20. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukasawa et al. (USPN 5,715,521) in view of Skinner et al. (USPN 5,577,025) as applied to claims 2 and 3 above, and further in view of Ozluturk et al. (USPN 5,841,768).

21. Regarding claims 14 and 15, referring to claims 2 and 3, Fukasawa in view of Skinner does not expressly disclose that the length of the acquisition code is shorter than the length of the CDMA communication code by at least a factor of five. Ozluturk teaches, in a CDMA communication system, that short codes permit a unit to quickly synchronize with a spreading code of another unit (col. 3, lines 20-24; col. 7, lines 32-37; and col. 7, line 62-col. 8, line 10). Ozluturk also discloses that the spreading code of another unit is an integer multiple of the short code since this allows for faster synchronization with the spreading code the another unit (col. 7, line 62-col. 8, line 10). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the length of the acquisition code be a factor of X, where X is an integer, shorter than the length of the CDMA communication code in order to permit one unit to quickly synchronize with another unit. Fukasawa in view of Skinner in further view of Ozluturk does not expressly disclose that the acquisition code is shorter than the CDMA communication

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code by at least a factor of five; however, Fukasawa in view of Skinner in further view of Ozluturk does disclose that the acquisition code is a factor of X, where X is an integer, shorter than the CDMA communication code (Ozluturk: col. 3, lines 20-24; col. 7, lines 32-37; and col. 7, line 62-col. 8, line 10). It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Fukasawa in view of Skinner in further view of Ozluturk discloses that the acquisition code is a factor of X, where X is an integer, shorter than the CDMA communication code, it would have been obvious to have the acquisition code be any amount shorter than the CDMA communication code, including by at least a factor of five, absent a showing of criticality by Applicant.

### ***Conclusion***

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Higuchi et al. (USPN 5,914,943) see col. 1, line 14-col. 2, line 38 which teaches the use of a matched filter for performing correlation in addition to why a short code should be used for a synchronization channel while a long code is used for a traffic channel.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (703)305-6970. The examiner can normally be reached on Mon.-Fri. 7:00-5:00 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703)308-6602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel J. Ryman  
Examiner  
Art Unit 2665

  
Daniel J. Ryman



ALPUS H. HSU  
PRIMARY EXAMINER